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Policy Analysis of Agricultural Water Fee Collection in China

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Abstract

The low collection rate of agricultural irrigation water fee is a common problem facing many developing countries, which has also troubled China since the 2000s. In different areas of China, there are two problem-solving strategies: raising water collection rate or exempting water fee. In this paper, we analyze the dilemma of China's agricultural water fee collection from both practical and theoretical perspective. We argue that China will not follow up one single model in agricultural water fee collection and each local government should explore appropriate policy in line with their own situation.

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1. Introduction

Water pricing and recovery of the costs of irrigation investment, operation, and maintenance have been contentious issues for many decades. The low charges for irrigation water are questioned, as well as, the small percentage of farmers who actually pay the charges (Easter & Liu, 2005). The prior literatures have paid great attention to the water pricing and conducted analysis both from theoretical and practical perspectives (Johansson et al., 2002; Ahmad, 2000; Abu-Zed, 2001; Zhong & Mol, 2010). The operation and maintenance of the irrigation facilities rely on the effective implementation of water pricing to raising funding. Though water fee is one major source of irrigation funding around the world, the low collection rate of agricultural irrigation water fee has been a common problem facing many developing countries. However, the common phenomenon of low collection rate of agricultural water fee has not drawn enough attention in literature.

China has a large amount of irrigated area. Since the State Council promulgated "the approved water fee, charge methods and management practices" in 1985, low agricultural water collection rate has been a problem. After entering the new century, with the increasing subsidy and support to the agriculture, rural area and farmers given by the China's government, and China's rural tax and fee reform started in 2003, the difficulties of China's water collection has increased. This creates serious problems both for irrigation agencies and, in the long run, for farmers. If the fees collected do not cover the costs of an irrigation project, its sustainability, without continued government subsidies, may be at risk.

When facing the dilemma of agricultural water fee collection, the practice in parts of China divides in two different directions. One is improving water collection rate by increasing the input of measurement infrastructure, enhancing the transparency of last canal water price and promoting the WUA. The other, happened mostly in southern parts of China where have Financial strength and relatively abundant water resource, is exempting agricultural water fee. In face of the dilemma of agricultural water fee collection in China, this article attempts to analyze it from both practical and theoretical perspective.

After the brief introduction, the second part presents the fact of water fee collection dilemma, and analyzes the reasons. The third section presents the practical response in various parts of China. The fourth part gives a theoretical analysis of these two practices. The last Part discusses the possible future model of the China's water fee collection.

2. The developing dilemma of agricultural water fee collection and the reasons

2.1. The developing dilemma of China's agricultural water fee collection

At the beginning of century, the collection rate of China's agricultural water is not high. It is significantly lower than the ones of industrial and domestic water. And the water collection rate is different by region; the rate of northern China is significantly higher than that of the south. In June 2002, the National Development and Reform Commission and the Ministry of Water Resources Office jointly start a survey on the water price in 100 large and medium-sized irrigation agencies. According to the survey, the average agricultural water fee collection rate from 1999 to 2001 is 71% in these 100 irrigation agencies, lower than the ones of industrial (88%) and domestic water (89.6%). The average agricultural water collection rate of northern China from 1999 to 2001 is 84%, while the counterpart of the south is 68%. Since China's rural tax and fee Reform started from 2003, the water fee collection has dropped dramatically. The Communiqué of 2007 National Water Resources Development shows in 2006 the average water fee collection rate of the 100 irrigation agencies is 55%, while agricultural water fee collection rate is 34%.

2.2. The reasons of dilemma in China's agricultural water fee collection before the rural tax and fee reform

Although China's law has specific instructions on water pricing and the way water fee collected and managed, the situation in the real world shows another picture. The reasons of dilemma in China's agricultural water fee collection, before the rural tax and fee reform, are that farmers feel that the rights of using water isn't equal to the obligation of paying water fee. Because of the unsound measuring irrigate facilities and lack of transparency in irrigation management, farmers always can't figure out how much water they have used and what is the exact price of irrigation water. This situation has a lot in common with other developing countries.

2.3. The reasons of dilemma in China's agricultural water fee collection after the rural tax and fee reform

With China's rapid economic growth and transition, after the rural tax and fee reform, the collection of water fee has encountered new difficulties. These new problems cannot be observed in other developing countries.

2.3.1. The abolition of agricultural tax has influence on the farmers' awareness of paying water fee

The rural tax and fee reform started in 2003. And the agricultural tax was abolished nationwide in 2006. The increasing agricultural subsidies and agriculture-supporting policies granted by the government had great influence on the farmers' awareness of paying water fee. Some farmers said "If we don't have to hand in agricultural tax, which had two thousand years' history, why should we have to pay the water fee? If the government had given lots of agriculture-related subsidies to relief our burden, why don't they just cancel water fee." Therefore the agricultural water collection rate declined each year.

2.3.2. The rural tax and fee reform made the input for the last canal even less

Over the years, because of low water price, low water collection rate and the water fee being intercepted and misappropriated, the investment in farmland water conservancy construction has been inadequate. After the rural tax and fee reform, especially after canceling the obligated workers for irrigation facilities construction while the substituting policies cannot be effectively put in place, the operation and maintenance input for irrigation facilities has greatly decreased. This made the damage rate of the last canal increased and the water service worse. Last Canal is the capillary of the irrigation district. When these capillaries are blocked or damaged, the water supply services will inevitably be affected. In many places, farmers refused to pay for the worse water supply service.

2.3.3. The rural tax and fee reform made the agricultural water fee collection lose the channel to attach

In the most irrigation district, the water fee is collected by the township water management station and village officials. The water fee collection has been a problem troubling the township water management station and village officials for a long time. In the past, the water fee was collected together with the mandatory agricultural tax. After the rural tax and fee reform, water fee becomes the only one remaining fee that needs to be collected. The water fee cannot be deducted from the subsidies given to the farmers. The local officials have to go to each farmer's home to collect that fee. This is a very difficult task, considering many farmers aren't willing to pay the fee. Every year, the officials of the township and village have to spend a lot of resources collecting water fee. The cost of collecting water fee is very high.

3. Practical response to the dilemma of water fee collection

Different parts of China have implemented a series of practice to address the dilemma of water fee collection. The practice can be divided in two different directions. One is improving water collection rate. The other, happened mostly in southern parts of China where have financial strength and relatively abundant water resource, is exempting agricultural water fee.

3.1. The practice of collecting water fee

Two key elements to achieving high collection rates, suggested by both literature and field experience, are system transparency and financial autonomy. Various parts of China have tried different means to reach system transparency and financial autonomy.

3.1.1. Strengthen the irrigation infrastructure. Improve the accurate measurement facilities of the agricultural water

Collecting water fee based on accurate water measurement can greatly decrease the disputes and conflicts about water quantity and improve the overall transparency of the irrigation management system. Strengthening the construction of water irrigation facilities and increasing investment in measuring facilities are the basic work to reduce the difficulties of water fee collection. Such fair and reasonable for the user, the user is a pretty good idea on the amount of water.

3.1.2. The implementation of water price publicity and water tickets to improve transparency

Water price publicity is an important measure to increase the transparency of the irrigation system. Regarding the practices across the country, water price publicity includes the three following aspects: First, water price, includes all aspects of government-approved price in water supply. Second, water consumption, the consumption of agricultural water should be published to the village in order to put an end to the “relationship water”. Third, water fee, the exact number every water user should pay and have paid. In practice, the water supply contract is also introduced into water publicity.

Using water tickets is another method to improve transparency. In some provinces, the government printed water tickets. The tickets define the water consumption, water price and water fee, which approved by the department of water pricing. The water user has to buy the tickets before each Irrigation season from the water management unit, and the farmers don't have to pay any other fee for irrigation water.

3.1.3. Promote water user association

Without autonomy, collecting sufficient funds from users does not guarantee improved O&M services because revenues from water charges, in many cases, do not go back to the project. Instead, promoting water user association is a good way to fulfill the goal of financial autonomy. Most WUAs bypass the traditional village township- county channels and directly purchase water from the ID on a volumetric basis. It is hoped that this more direct way of fiscally managing the ID can lead to lower fees for farmers.

3.2. The practice of exempting water fee

Exempting water fee means the irrigation agencies don't collect water fee from farms any more, the fee will be covered by the fiscal transfer. The practices of exempting water fee always happened in the south China where have financial strengthen. This is a unique phenomenon, resulting from China's rapid economic growth and transition, in developing countries.

The water fee collection of south China faces much more challenge than that of north China. The reason lies in that water resources in north China are in shortage and unevenly distributed of space and time, the regular function must rely on water conservancy facility. Water conservancy water supply is the main source of agricultural irrigation. Irrigation water is vital to crop, so timely water delivery is one of the decisive factors that will affect the income of northern farmers. Water users always take more initiative to pay their water bills in order to obtain the water supply services. Because of rich rainfall, the water resource in south China is relatively abundant. The supply of agricultural water depends much less on water conservancy facility. When in the weather year, farmers in some district are able to meet the demand of irrigation water without the water from irrigation agencies. Therefore, farmers have much less initiative to pay water charges, resulting in the dilemma of water fee collection. With rapid economic growth in recent years, China has entered into a new stage of development, where industry nurture agriculture and cities support rural areas. The dramatic changes of economic conditions and policy environment make the traditional water fee collection in the south more serious. The districts where have financial strength started to exempt water fee to address the problem, which means the water fee is covered by fiscal transfer, farmers don't have to pay their water bills to irrigation agencies any more.

4. Analysis on the policy options of agricultural water fee collection

4.1. The benefits and costs of water fee collection reform

The benefits of exempting water fee are also the cost of continuing water fee collection and the costs of exempting water fee are also the benefits of continuing water fee collection. If you choose to implement a policy, you need to weigh the costs and benefits.

The benefits of exempting water fee include: (1) Solve the difficulty of water collecting; reduce the workload of grassroots institutions. Collecting water fee has been a major problem, which troubles the grassroots institutions for a long time. Exempting water fee can free the staff of water conservancy organizations from that resource-consuming job and help them focus on providing better water services for farmers.(2) Solve the problem of overcharging and being added extra fee by local officials. The overcharge and being added extra fee have been the phenomenon that farmers hated the most, which results in farmers' heavy burden and low water fee collection rate. If the irrigation agencies don't charge water fee any more, this problem is completely solved.(3)Reduce the farmer's burden, which is in consistent with authority's policy intention. Water fee expenditure has become second largest expenditures only after fertilizer spending. Exempting water fee will be another subsidy for farmers.

The costs of exempting water fee include:(1)Water fee is the main funding source for the O&M of irrigation agencies, exempting water fee will affect the irrigation district's regular function. (2)Another object of collecting water fee is to increase the water use efficiency. Proper water price system can make the farmers aware of the water efficiency. In the current condition of collecting water fee, the phenomenon of flood irrigation still exists. If the water user don't have to pay the water fee anymore, waste of water resources will become more serious, which make the China's water resource much scarcer.

4.2. Reduce the negative effects of exempting water fee

Exempting water fee is a spontaneous practice happened in south China recent years, especially the places where have fiscal strength. When compared to the policy package of continuing water fee collection, exempting water fee face much more challenge. There are some problems remaining to be solved. As mentioned above, water fees are collected from farmers for two main reasons. The first is to cover the O&M cost so that the project is financially sustainable. The second objective involves pricing to encourage farmers to use water efficiently. How to achieve financial sustainable and efficient water using without collecting water fee is a real challenge. As to the policy package of exempting water fee, this article suggest that we should separate the expense of irrigation backbone project and the O&M fee of the last canal apart.

4.2.1. Increase fiscal subsidies to provide the O&M fee of irrigation district

If in some weather years, farmers in south China are able to meet the demand of irrigation water without the water from irrigation agencies, then according to the principle of "who benefits and who burden", the farmers can be free from the obligation of paying water fee. The O&M fee of irrigation district should be covered by the fiscal subsidies.

4.2.2. Promote the reform of last canal management and explore the appropriate subsidy system

As to the last canal management, we can promote the water user association and reform the property rights of small and medium - sized irrigation facilities. And the local government can subsidy the last canal manger in some way. Exempting water fee doesn't mean that the farmers can use water without paying any costs. In the management and operation of the last channel, according to the principle of "who benefits and who burden", farmers should share their responsibility no matter in what kind of forms.

5. Conclusions

The difficulty of water fee collection has troubled the worldwide developing countries for a long time. In order to address the dilemma, various parts of China demonstrated, improving water management to raise collection rate and exempting water fee, these two distinct practices. In this paper, we analyze the dilemma of China's agricultural water fee collection from both practical and theoretical perspective. We believe that China's future water fee collection doesn't end in one single model. Every local government should take appropriate measures, according to their own constraints. Given the difference of natural and economic conditions, the benefits and costs of policy option will change dramatically. In those places where have scarce water resource and poor fiscal strength, they should continue water fee collection and try to implement a series of measures mentioned above to improve the collection rate. In those places where have abundant water resource and strong fiscal strength, they can exempting water fee. But a policy package to achieve financial sustainability and efficient water using is urgently needed.

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